

AMENDMENT

Amendment to the Claims

This list of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of deployment of a biopsy marker at a biopsy surgical site within a body by use of a biopsy device, the method comprising:

providing a biopsy device including
a probe defining a cutter lumen having proximal and distal openings, and
a cutter configured to be distally advanceable and proximally retractable through the
cutter lumen;

retracting [[a]] the cutter to expose [[a]] the proximal opening of the cutter lumen of a biopsy
probe;

providing a marker and a pusher, the pusher having trailing and leading ends and a seat
portion proximate to the trailing end, configured to abut with the cutter;

inserting a the marker and the pusher into the proximal opening of the cutter lumen;
bringing the cutter and the seat portion into abutment; and

distally advancing the cutter to drive the pusher and thus the marker to cause deployment of
the marker through the distal opening of the cutter lumen at the biopsy surgical site.
2. (original) The method of claim 1, wherein a distal portion of the cutter lumen communicates with a pneumatic source, the method further comprising:
insufflating the biopsy surgical site with the pneumatic source.
3. (original) The method of claim 1, further comprising:
assembling an introduction device by inserting the marker and pusher into an introducer tube sized for the cutter lumen.

4. (original) The method of claim 3, further comprising:
forming a pneumatic seal between the pusher and the introducer tube, wherein distally advancing the cutter forms a syringe pressure proximally to the pneumatic seal.
5. (original) The method of claim 3, further comprising:
forming a pneumatic seal between the pusher and the introducer tube; and
forming a vacuum assist pressure in a distal portion of the cutter lumen, thereby distally drawing the pusher to deploy the marker.
6. (currently amended) The method of claim 2, further comprising sizing a thickness of an [[the]] introducer tube to enable advancing the cutter into the cutter lumen with an [[the]] introduction assembly inserted therein, wherein distally advancing the cutter comprises distally advancing the cutter into the cutter lumen.
7. (cancelled)
8. (original) The method of claim 1, further comprising proximally extending the pusher from the cutter lumen wherein distally advancing the cutter deploys the marker as the cutter approaches the cutter lumen.
9. (original) The method of claim 1, further comprising distally advancing the cutter to position the pusher across a distal lateral opening in the biopsy probe enabling retraction of the biopsy probe without disturbing the deployed marker.
10. (cancelled)
11. (original) The method of claim 1, further comprising percutaneously deploying the marker during a core needle biopsy procedure.

12. (currently amended) A device for deploying a biopsy marker through a biopsy instrument having a probe defining a cutter lumen including a probe lateral distal opening and an accessible a probe proximal opening, and a cutter translatable distally advanceable and proximally retractable through the cutter lumen, the device comprising:
 - a tube configured to be received in the cutter lumen and having a tube lateral distal opening; a marker slidingly received in the tube; and
 - a pusher proximal to the marker and slidingly received in the tube, and having a proximal extension configured for abutment with the cutter to deploy the marker through the tube lateral distal opening,

wherein the tube and the tube lateral distal opening are configured such that when the tube is inserted into the cutter lumen, the tube lateral distal opening and the probe lateral distal opening can be aligned at least in part, and wherein the pusher has a length adapted for cooperation with the cutter such that when the tube, marker and pusher are inserted into the cutter lumen, distally advancing the cutter will drive the pusher and cause the marker to be urged through the tube lateral distal opening and the probe lateral distal opening.
13. (original) The device of claim 12, further comprising a proximal collar attached proximally to the tube and configured for manipulating the device into the cutter lumen.
14. (original) The device of claim 12, further comprising an alignment feature configured to rotationally orient the tube in the cutter lumen.
15. (original) The device of claim 12, further comprising a pneumatic sealing feature dynamically sealing the pusher to the tube.
16. (original) The device of claim 13, wherein the tube distally includes a deployment opening, the device further comprising a removable sealing tip engageable over the deployment opening.

17. (original) The device of claim 12, wherein the distal opening includes a ramped surface to rampingly eject a distal end of the marker.
18. (original) The device of claim 17, wherein the pusher distally terminates in a driving surface for rampingly ejecting a proximal end of the marker.
19. (original) The device of claim 12, wherein at least a portion of the tube and pusher comprise a resilient material for flexibly inserting the device into the biopsy instrument.

20. (currently amended) A biopsy system for obtaining a biopsy sample, the biopsy system comprising:
- a core biopsy probe including a cutter lumen that communicates between a probe lateral distal opening and an accessible a probe proximal opening;
- a biopsy handle holding the biopsy probe, having an actuator for cutting the biopsy sample through the biopsy probe;
- a cutter operably connected to the actuator, and distally advanceable and proximally retractable through the cutter lumen; and
- a marker introduction device comprising:
- a tube configured to be received in the cutter lumen and having a tube lateral distal opening,
- a marker slidingly received in the tube, and
- a pusher proximal to the marker and slidingly received in the tube, and having a proximal extension configured for abutment with the cutter to deploy the marker through the tube lateral distal opening;
- wherein the tube and the tube lateral distal opening are configured such that when the tube is inserted into the cutter lumen, the tube lateral distal opening and the probe lateral distal opening can be aligned at least in part, and wherein the pusher has a length adapted for cooperation with the cutter such that when the tube, marker and pusher are inserted into the cutter lumen, distally advancing the cutter will drive the pusher and cause the marker to be urged through the tube lateral distal opening and the probe lateral distal opening.
21. (original) The biopsy system of claim 20, wherein the pusher is operably configured to dynamically seal to the tube, the biopsy system further comprising a vacuum assist system communicating pneumatically with a distal portion of the probe to assist in marker deployment.

22. (original) The biopsy system of claim 21, wherein the vacuum assist system is operably configured to insufflate a surgical site.
23. (original) The biopsy system of claim 21, wherein the vacuum assist system is operably configured to distally draw the pusher to deploy the marker.
24. (original) The biopsy system of claim 20, wherein the pusher is operably configured to close the distal opening in the biopsy probe subsequent to marker deployment.